

Milliken Infrastructure

RenewWrap™

Strand Sheet Adhesive (FB-E7S)

Epoxy Resin for Bonding Strand Sheets



BRIDGES + ROADWAYS



BUILDINGS + PARKING FACILITIES



OIL, GAS + INDUSTRIAL

RenewWrap™ Strand Sheet Adhesive (FB-E7S) is a 2-part, 100% solids, epoxy adhesive used to bond RenewWrap™ Strand Sheets to concrete or steel structures. RenewWrap™ Strand Sheet Adhesive (FB-E7S) is supplied in two-part kits.

Benefits

- Can be used on both steel and concrete substrates
- Non-sag, can be used in overhead and vertical applications
- Paste-like consistency makes material easy to apply using a trowel and facilitates complete bonding of Strand Sheets.
- VOC compliant, low odor
- 100% solvent free
- Can be applied directly to concrete substrates without first applying a primer

Typical Uses

The RenewWrap Strand Sheet Strengthening system may be used to strengthen or retrofit a wide range of concrete and steel structural members including columns, beams, slabs, walls, pipes, tunnels, deck, piers, piles, etc.

- Extend fatigue life of steel structures
- Restore strength of corrosion-deteriorated steel structures.
- Strengthen for load increases
- Address changes in structural system, like slab openings
- Retrofit for seismic, wind, or blast
- Restore strength to damaged members like fire or vehicle impact
- Restore strength to deteriorated members subject to corrosion
- Strengthen for design/construction errors

Limitations

- Substrate /ambient temperature must be greater than 40 °F (4 °C)
- Age of concrete substrate should be 21-28 days or within 75% of its 28-day compressive strength and moisture content is less than 8%.
- Do not thin with solvents
- Color may change slightly due to UV exposure
- Cured material will act as a vapor barrier on concrete substrates
- On concrete substrates, avoid applying material when the temperature is rising to minimize the effects of moisture vapor transmission

*Strand Sheet® products are based on technology developed by Nippon Steel & Sumkin Materials Company, Ltd.
Strand Sheet® is a registered trademark of Nippon Steel & Sumkin Materials Co.*



Storage & Shelf Life

Store in a cool, dry place at 40-90 °F (4-32 °C) away from flame or other hazards. Shelf life is 12 months when properly stored in unopened containers.

Caution

Consult Safety Data Sheets (SDS) and always use appropriate personal protective equipment when handling resins.

Alternate Product Designation

FB-E7S


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Epoxy Resin for Binding Strand Sheets

Physical Properties

PROPERTY	VALUE	TEST METHOD
Mix Ratio	4:1 (by weight)	
Specific Gravity	1.40 (mixed)	
Glass Transition Temperature	140 °F (60 °C)	ASTM D3418

Mechanical Properties

PROPERTY	TYPICAL VALUE	TEST METHOD
Tensile Strength	4,400 psi (30 MPa)	JIS K 7161
Flexural Strength	5,800 psi (40 MPa)	JIS K 6850
Compressive Strength	5,000 psi (35 MPa)	JIS K 7181
Compressive Modulus	145,000 psi (1,000 MPa)	JIS K 7181
Lap Shear Strength	2,200 psi (15 MPa)	JIS K 7171

Field Characteristics

PROPERTY	VALUE
Pot Life	90 Minutes @ 77° F (25°C)

Packaging

COMPONENT	QUANTITY	PACKAGE
Part A	26.5 lbs (12 kg)	Steel cans
Part B	6.6 lbs (3 kg)	Steel cans
Unit Sizes	33.1 lbs (15 kg) 2.83-gallon kit	

Coverage Rates/Ply

SUBSTRATE	COVERAGE RATE (BY WEIGHT)	COVERAGE RATE (BY VOLUME)
Steel	2.5 kg/m ²	23 SF/gallon
Concrete ¹	3.0 kg/m ²	19 SF/gallon

NOTES:

1. RenewWrap™ Adhesive (FB-E7S) is also used to construct fillets prior to wrapping RenewWrap CF300/HM ultra-high modulus reinforcing fabrics.

Before using any Milliken Infrastructure Solutions, LLC product, the user must review the most recent version of the product's technical data sheet, material safety data sheet and other applicable documents, available at www.strengtheningsolutions.milliken.com or by calling 1-855-655-6750. LIMITED WARRANTY: Milliken Infrastructure Solutions, LLC is very proud of our innovative RenewWrap™ products (the "Products") and our superior customer service. We hereby warrant to the original purchaser that the Products meet Milliken's standard specifications at the time of delivery from us. If the Products are found to be defective because they do not meet this Warranty, then we will as the sole remedy either (at our option) refund the purchase price for those Products or provide replacement Products (in either case, not including shipping, installation or any other cost). Naturally, we are not responsible or liable for degradation, damage, liability or defect in, or related to, the Products caused by improper storage, use, installation or maintenance, any other party's representations, warranties, actions, or omissions, or acts of God. WE MAKE NO REPRESENTATION OR WARRANTY BEYOND THE EXPLICIT STATEMENTS CONTAINED IN THIS WARRANTY, AND ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, INFRINGEMENT, OR ANY WARRANTIES BASED UPON SAMPLES, MODELS, OR SPECIFICATIONS, ARE HEREBY EXPRESSLY DISCLAIMED. NOTWITHSTANDING ANYTHING TO THE CONTRARY, IN NO EVENT SHALL WE BE LIABLE TO THE ORIGINAL PURCHASER OR ANYONE ELSE FOR ANY CONSEQUENTIAL, INDIRECT, SPECIAL, OR EXEMPLARY (OR ANY SIMILAR TYPE OF) DAMAGES RELATED TO THE PRODUCTS. As each customer's use of our Products and situation may be different, information we provide, including without limitation, use or installation suggestions, test results, samples, etc. is provided in good faith but without warranty and without accepting any responsibility or liability. Each customer must test and be responsible for its own specific use, installation, application, etc. All sales are exclusively subject to our standard terms of sale posted at www.milliken.com/terms (all additional/different terms are rejected) unless explicitly agreed otherwise in a signed writing. This Warranty is governed by the laws of the United States and the State of South Carolina, U.S.A. (without giving effect to its conflict of law principles), and any party desiring to take action under this Warranty hereby submits to the exclusive jurisdiction of the courts in such jurisdiction and waive any inconvenient forum claims related thereto. In the unlikely event that you have a warranty issue, please contact your distributor or sales representative to discuss and resolve the matter in accordance with this Warranty.

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FRP1086-1217